

WHAT IS CLAIMED IS:

1. A wireless communication integrated circuit
5 (IC) for exchanging data with an external device by
receiving a radio signal having a given carrier
frequency as power supply from the external device
through an antenna, comprising:

a capacitor storing electric power;

10 a diode placed between an end of the antenna and
the capacitor, supplying a charge current of the radio
signal to the capacitor on a half cycle of the radio
signal; and

15 a load modulation circuit driven by receiving
power supply from the capacitor on another half cycle
of the radio signal.

2. A wireless communication integrated circuit
20 (IC) for exchanging data with an external device by
receiving a radio signal having a given carrier
frequency as power supply from the external device
through an antenna, comprising:

a capacitor for storing electric power;

25 a diode placed between an end of the antenna and
the capacitor, supplying a charge current of the radio
signal to the capacitor on a half cycle of the radio
signal; and

a load modulation circuit comprising a series circuit of a first transistor and a first resistor in parallel to the antenna, and a drive circuit connected to the end of the antenna, for on/off driving of the 5 first transistor by receiving power supply from the capacitor on another half cycle of the radio signal.

3. A wireless communication IC according to Claim 2, wherein resistance of the first resistor and on-state resistance of the first transistor are selected 10 to modulate the radio signal by several percent to several tens of percent, and the wireless communication IC receives the radio signal in close-coupled to the external device.

15

4. A wireless communication IC according to Claim 3, wherein

the first transistor is a P-channel transistor,
resistance of the first resistor is several 20 hundreds of ohms,

the drive circuit is a series circuit of a second transistor comprising a P-channel transistor connected between a cathode of the diode and the end of the antenna, a second diode, and a second resistor, and

25 a connection of the second diode and the second resistor is connected to a gate of the first

transistor.

5. A wireless communication information storage medium for exchanging data with an external device by receiving a radio signal having a given carrier frequency as power supply from the external device through an antenna, comprising:

an antenna receiving a radio signal having a given carrier frequency from the external device,

10 a capacitor storing electric power;

a diode placed between one end of the antenna and the capacitor, supplying a charge current of the radio signal to the capacitor on a half cycle of the radio signal; and

15 a load modulation circuit driven by receiving power supply from the capacitor on another half cycle of the radio signal.

6. A wireless communication information storage medium for exchanging data with an external device by receiving a radio signal having a given carrier frequency as power supply from the external device through an antenna, comprising:

an antenna receiving a radio signal having a given carrier frequency from the external device,

25 a capacitor for storing electric power;

a diode placed between an end of the antenna and the capacitor, supplying a charge current of the radio signal to the capacitor on a half cycle of the radio signal; and

5 a load modulation circuit comprising a series circuit of a first transistor and a first resistor in parallel to the antenna, and a drive circuit connected to the end of the antenna, for on/off driving of the first transistor by receiving power supply from the
10 capacitor on another half cycle of the radio signal.

7. A wireless communication information storage medium according to Claim 6, wherein resistance of the first resistor and on-state resistance of the first transistor are selected to modulate the radio signal by several percent to several tens of percent, and the wireless communication IC receives the radio signal in close-coupled to the external device.
15

20 8. A wireless communication information storage medium according to Claim 7, wherein

the first transistor is a P-channel transistor,
resistance of the first resistor is several hundreds of ohms,

25 the drive circuit is a series circuit of a second transistor comprising a P-channel transistor connected

between a cathode of the diode and the end of the antenna, a second diode, and a second resistor, and

a connection of the second diode and the second resistor is connected to a gate of the first
5 transistor.